

Remarks: Claims

The Claims 1, 3, 8, 9, 16, and 17 were amended to better distinguish the invention over the prior art. Claims 14, 15, 18, and 19 were canceled.

Claims 1 and 8 were amended to include the step of coupling the spread information signal and the despreading signal into the wireless communication channel, such as recited on page 18, lines 21-23 of the original filed specification with reference to Fig. 10A.

Similarly, Claims 16 and 17 were amended to include a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel, such as recited on page 18, lines 21-23 of the original filed specification with reference to Fig. 10A.

Claim 3 was amended to include the phrase duplicating the spread information signal, which is described on page 22, lines 13-14 of the originally filed specification, and illustrated by element 174 in Fig. 14A. This amendment should obviate the rejection of Claim 3 under 35 USC 112. Also, an informality noted by the Examiner was corrected.

Claim 9 was amended to correct an informality noted by the Examiner.

Amendment to the Specification

Please rewrite the third paragraph on page 19 as follows:

The diversity encoder 96 may be a delay element (such as the delay element 96 96.1 shown in FIG. 10A) in order to provide time diversity to the wideband signal. The transmitter 99 may include an array of transmission elements (not shown) and the diversity encoder 96 may include a coupling system (not shown) that connects the diversity encoder 96 to individual transmission elements (not shown).

Remarks: Specification

The reference number 96, which is referred to as a delay element in Figure 10A, was changed to 96.1 in order to comply with the Examiner's recommendation.

Remarks: Examination Report

1. Section 1 of the Examination Report

Applicant's arguments filed December 1, 2005 were considered, but were not persuasive.

2. Section 2 of the Examination Report

The rejection of claims 8-13 under 35 U.S.C. 112 was withdrawn.

3. Section 3 of the Examination Report

The rejection under 35 U.S.C. 102(b) in view of Cafarella was maintained. The Examiner noted that Figure 8 in Cafarella shows a pseudo-noise generator that generates a reference code, thus disclosing the claimed invention.

The claims were amended to better differentiate the claimed invention from the prior art.

For example, the step of coupling the spread information signal and the despreading signal into the wireless communication channel recited in the currently amended independent claims 1 and 8 is not disclosed in Cafarella. Similarly, a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel recited in the independent claims 16 and 17 is not shown in Cafarella.

4. Section 4 of the Examination Report

The rejection under 35 U.S.C. 102(b) in view of Weerackody was maintained. The Examiner noted that Figure 4 in Weerackody shows a receiver with a signal generator that generates a despreading signal, and thus, discloses the claimed invention.

The currently amended independent claims 1 and 8 recite the step of coupling the spread information signal and the despreading signal into the wireless communication channel, which is not shown in Weerackody. The currently amended independent claims 16 and 17 recite a transmitter configured for coupling the spread-spectrum signal and the

despreadening signal into the wireless communication channel, which is not shown in Weeackody.

Thus, the currently amended independent claims 1, 8, 16, and 17, and the corresponding dependent claims, disclose novel structure should be patentable under 35 U.S.C. 102(b).

5. Sections 5 of the Examination Report

The drawings received on December 1, 2005 were acceptable.

6. Sections 6 of the Examination Report

The Examiner noted an informality in the specification. The specification was amended to correct this informality.

7. Section 7 of the Examination Report

The Examiner noted informalities in Claims 3 and 9. These claims were amended to correct these informalities.

8. Sections 8 of the Examination Report

The Examiner reminded applicant to cancel claims 14, 15, 18, and 19. These claims were cancelled.

9. Sections 9-11 of the Examination Report

Claim 3 was rejected under 35 U.S.C. 112 for failing to comply with the written description requirement. Specifically, the specification does not recite the “plurality of identical waveforms” recited in Claim 3.

Claim 3 was amended to correct this oversight.

10. Sections 12-14 of the Examination Report

Claims 16 and 17 were rejected under 35 U.S.C. 112 for having insufficient antecedent bases.

11. Sections 15-21 of the Examination Report

Claims 1, 2, 6-9, 12, and 13 were rejected under 35 U.S.C. 102(b) as being anticipated by Cafarella.

The claims were amended to better differentiate the claimed invention from the prior art. For example, the step of coupling the spread information signal and the despreading signal into the wireless communication channel recited in the currently amended independent claims 1 and 8 is not disclosed in Cafarella. Similarly, a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel recited in the independent claims 16 and 17 is not shown in Cafarella.

Since the amended independent claims 1 and 8 clearly presents novel structure that the prior-art references neither describe nor anticipate, the amended independent claims 1 and 8, (and hence, the dependent claims 2, 6, 7, 9, 12, and 13) should be considered patentable under 35 U.S.C. 102.

12. Section 22 of the Examination Report

Claims 1 and 3 were rejected under 35 U.S.C. 102(e) based on Whinnett.

Whinnett describes transmitting space-time coded signals over a plurality of channels to provide for diversity. Unlike the claimed invention, which couples a despreading signal with a spread information signal into a channel, Whinnett spreads each pair of first and second transformed data streams with a spreading code to produce antenna data streams. Thus, at the receiver, Whinnett states that each inverse transformer must include a channel estimator that can select the proper channel to estimate based on the antennas selected at the transmitter. This would not be necessary if a decoding signal was transmitted with the spread signals in the same channel.

Specifically, the step of coupling the spread information signal and the despreading signal into the wireless communication channel recited in the currently amended independent claim 1 is not disclosed in Whinnett.

13. Sections 23-25 of the Examination Report

Claims 1, 5, 8, and 11 were rejected under 35 U.S.C. 102(b) as being anticipated by Weerackody.

The currently amended independent claims 1 and 8 recite the step of coupling the spread information signal and the despreading signal into the wireless communication channel, which is not shown in Weerackody. The currently amended independent claims 16 and 17 recite a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel, which is not shown in Weeackody.

Thus, the currently amended independent claims 1, and 8, and the corresponding dependent claims, 5 and 11, disclose novel structure should be patentable under 35 U.S.C. 102(b).

14. Sections 26 of the Examination Report

Claims 16 and 17 were rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi.

The claims were amended to better differentiate the claimed invention from the prior art. Specifically, a transmitter configured for coupling the spread-spectrum signal and the despreading signal into the wireless communication channel recited in the independent claims 16 and 17 is not shown in Hayashi.

15. Conclusion

The Applicant submits that every effort has been made to address the Examiner's objection and that the Application is now in condition to proceed to grant.

Very respectfully,



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